UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

Forest Insect and Disease Management
P.O. Box 5895, Asheville, N.C. 28803

REPLY TO: 5230 - Evaluation
No. 77-1-13

June 6, 1977

SUBJECT: Fall Cankerworm

TO: George A. Olson, Forest Supervisor
National Forests in North Carolina

The fall cankerworm, Alsophila pometaria (Harris) defoliated about 8,000 acres on the Wayah Ranger District of the Nantahala National Forest in the spring of 1976. In March 1977 the Forest Insect and Disease Management Group sampled two areas to predict the extent and severity of the spring's defoliation. Results from the survey indicates a continued spread and heavy defoliation in areas detected last year.

The areas were sampled according to the sequential sampling technique developed by R. L. Tallerico for predicting defoliation. Plots were distributed evenly over the infested area. Predictions are based on the number of egg masses found on five 30-inch branches taken from the mid-crown of each sampled tree. From these samples egg masses were collected and reared out in the laboratory to determine egg viability. After larval emergence was complete the egg masses were dissected to determine the cause for failure of some of the eggs to hatch, due either to parasitism or being non-viable. Parasitized eggs contained the developing or adult form of the egg parasite Telenomus alsophilae (Vier.). The number of eggs per mass were counted and the percent of sound, non-viable and parasitized eggs for each area were calculated. Results of the egg viability count are contained in Table 1.

Table 1: Percent of parasitized, non-viable and sound fall cankerworm eggs collected from the Nantahala National Forest, N.C., 1977.

Total # Eggs Sampled	% Eggs Parasitized	% Eggs Non-viable	% Eggs Sound
4734	3.38	15.78	80.86

Figure 1 shows the areas of anticipated heavy to moderate defoliation. Some of the valleys within these areas will not be affected due to low populations of the insect and non host types.

Egg parasitism is to low to have any impact on the population and it is likely that the fall cankerworm will continue to expand its range and build-up in the following year.

Impact plots have been established in the infested areas to ascertain growth loss, die back, and mortality resulting from continual defoliation. To present there is very little die back and no mortality detected in the infested areas.

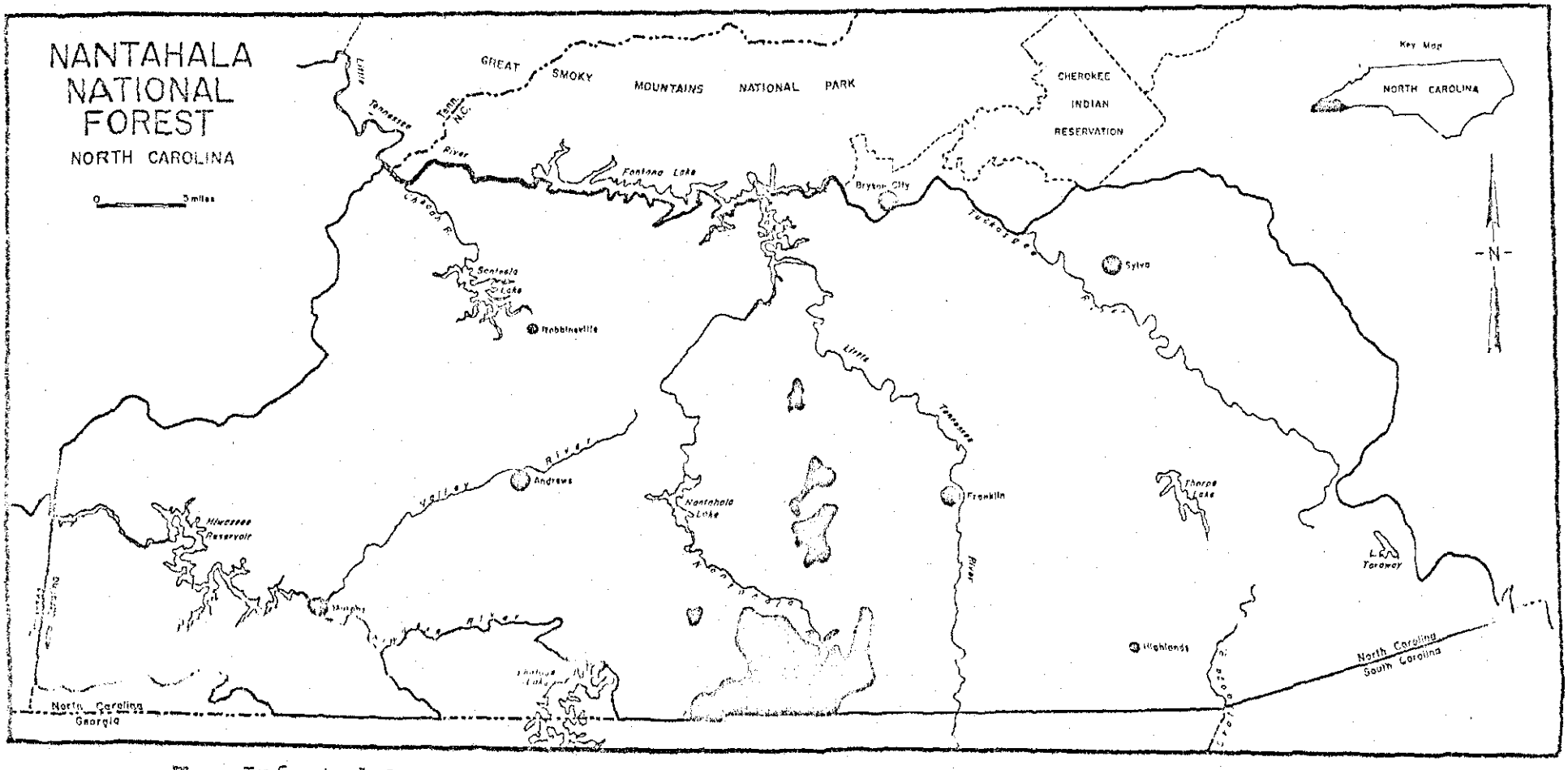
Forest Insect and Disease Management will conduct an aerial survey in early June to determine the extent and areas of defoliation from this spring.

If there are any questions please contact Forest Insect and Disease Management, Asheville, N.C.

Harold W. Flake

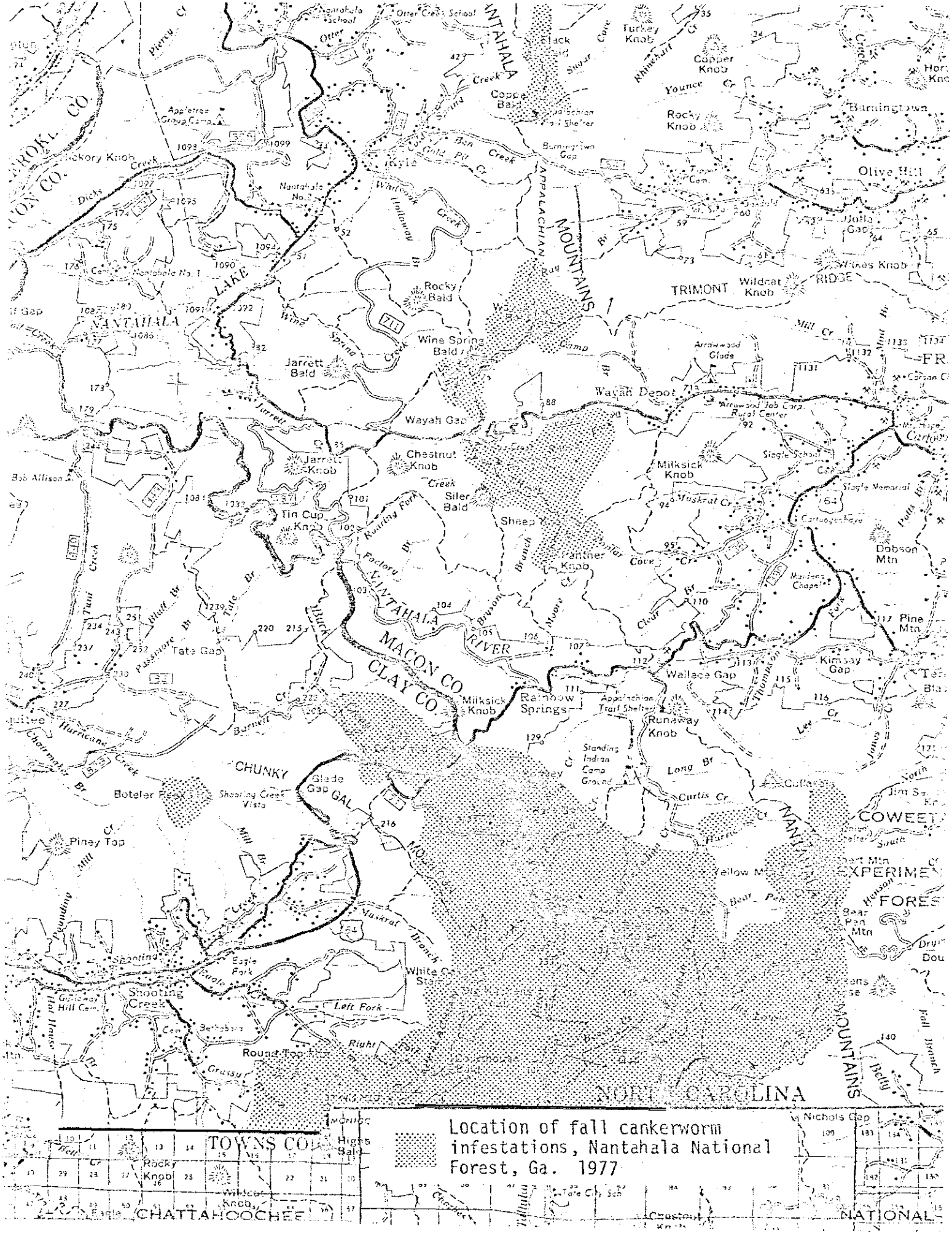
HAROLD W. FLAKE
Field Representative

cc: District Ranger, Wayah RD



▨ - Infested Areas

Figure 1. Location of the fall cankerworm infestation.


Location of fall cankerworm infestations, Nantahala National Forest, Ga. 1977
TOWNS CO
CHATTAHOOCHEE
NATIONAL
NORTH CAROLINA
MACON CO
CLAY CO
NANTAHALA
MOUNTAINS
APPALACHIAN
TRIMONT
RIDGE
LAKE
RIVER
CHUNKY
GAL
Nantahala
Wayah Gap
Wayah Depot
Jarrett Bald
Wine Spring Bald
Rocky Bald
Wildcat Knob
Milksick Knob
Rainbow Springs
Wallace Gap
Kimsey Gap
Tate Gap
Glade Gap
Piney Top
Runaway Knob
Panther Knob
Siler Bald
Chestnut Knob
Tin Cup Knob
Jarrett Knob
Dobson Mtn
Pine Mtn
Yellow Mtn
Bear Pen Mtn
Rocky Knob
Copper Knob
Burningtown
Olive Hill
Turkey Knob
Black Rock
Cowee
Kyle
Wayah Bald
Standing Indian Camp Ground
Shooting Creek Vista
Boteler Peak
Appletree Group Camp
Nantahala No. 1
Nantahala No. 2
Nantahala School
Otter Creek School
Arrowwood Glade
Arrowwood Job Corps Rural Center
Siagle School
Siagle Memorial
Maintenance Chapel
Cartoogechaye
Wesser
Bob Allison
Nichols Gap
Tate City Sch
Crestmont Knob
Higgs Bald
Rocky Knob
Wildcat Knob
Eagle
Cr
Creek
Br
Mt
Gap
Knob
Bald
Ridge
Mountains
Trail Shelter
Camp
Ground
Cem
Sch
Rec
Area
Forest
Experimental